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13. ABSTRACT (Maximum 200 words) The purpose of this study was to assess the organizational climate at Landstuhl Regional Medical Center (LRMC) through the use of a Work Environment Scale (WES) that was developed by Rudolph Moos. The WES is designed to measure that actual, preferred, and expected social environments of work settings. Although many studies have been conducted on patient satisfaction, fewer have been done on the health care employees. The administration of the WES to LRMC civilian and military employees did not reveal any significant differences in comparison with Moos' normative data for health care workers. An additional set of questions were specifically developed for the LRMC work environment. These questions included demographic items to assist in the identification of possible between group response differences. Within the LRMC response group selected difference were found with regard to younger and older workers. Differences between male and female respondents were found to be overall statistically not significant, with the exception of task orientation (females were more task oriented). No statistical significance was found between respondents' satisfaction levels as differentiated by Duputy Commander category.				
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**Implementation of an Employee Work Environment Survey**

**at Landstuhl Regional Medical Center**

**Landstuhl, Germany**

**A Graduate Management Project**

**Submitted to the Faculty of**

**Baylor University**

**In Partial Fulfillment of the**

**Requirements for the Degree**

**of**

**Master of Health Administration**

**by**

**Major John B. Foley, MS, USA**

**June 1996**

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## **ABSTRACT**

This study was to assess the organizational climate at Landstuhl Regional Medical Center (LRMC) through the use of a Work Environment Scale (WES) that was developed by Rudolf Moos. The WES is designed to measure the actual, preferred, and expected social environments of work settings. Although many studies have been conducted on patient satisfaction, fewer have been done on the health care employees. The administration of the WES to LRMC civilian and military employees did not reveal any significant differences in comparison with Moos' normative data for health care workers. An additional set of questions were specifically developed for the LRMC work environment. These questions included demographic items to assist in the identification of possible between group response differences. Within the LRMC response group selected differences were found with regard to younger and older workers. Differences between male and female respondents were found to be overall statistically not significant, with the exception of task orientation (females were more task oriented). No statistical significance was found between respondents' satisfaction levels as differentiated by Deputy Commander category. These findings are discussed along with recommendations for the development of additional items for inclusion in future surveys and the survey administration process.

## **I. INTRODUCTION**

### **Conditions that prompted the Study**

The downsizing of the United States military forces in Europe raised concern about the abilities of the medical community to provide quality, accessible and deliverable health care to eligible beneficiaries assigned to the Department of Defense (DOD) in the European Theater. In response to these concerns an organization was established to ensure continuity of care for DOD eligible beneficiaries within the theater. This organization is the European Health Service Support Area (EHSSA). The integration of DOD health care providers, elimination of Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) deductibles and copays coupled with the use of multilingual patient representatives, health care beneficiary advisors and innovative contractual arrangements with civilian health care providers has done a great deal to ensure a smooth and seamless continuum of care. Landstuhl Regional Medical Center forms the linchpin of this integrated health care delivery system in Europe.

The integration of multi-service personnel and civilian health care personnel along with the interaction with the German health care network provides for both a unique organizational climate and organization. This integration of multifaceted health care resources may well serve as the model for future military medical support activities in an era that is characterized by declining fiscal resources.

Mintzberg suggests that all organizations consist of five interrelated parts: the strategic apex, the operating core, the middle line, the technostructure, and the support

staff (Rakich and Beaufort, 1994). The strategic apex is that group of individuals within the organization that sets the organizational direction. The second group, the operating core, do the basic work. In a hospital environment this group of personnel would include: physicians, nurses, therapists, and technologists. These individuals are all concerned with the process of changing inputs to outputs. The middle line are those managers located below the leaders in the strategic apex and above the operating core. The middle line are the department heads and heads of other units and subdivisions. This would include head nurses and nursing supervisors, and the directors of nutrition care, pharmacy and the laboratory. The technostructure is comprised of those individuals who are involved in the planning and control of the basic work of the organization. Their role is that of standardization of work. Rakich notes that these individuals are removed from direct operations, from the operating work flow, but they may design, plan, change, or train the people who do it. Most often associated with this arena are the risk managers, individuals in support of continuous quality improvement, budget analysis, strategic planners, and those individuals involved in the recruiting and training of workers. The support staff support the organization's basic efforts, but do not do the basic work. Rakich points out that these people do support provision of health services, but do not directly provide health services. The support staff would include: human resource management, legal counsel, marketing and public relations.

Landstuhl Regional Medical Center lends itself well to Mintzberg's organization model structure. What is unique to Landstuhl's organization is that key positions within the strategic apex and the operating core have a duality of functional roles. This duality

of roles is a result of Landstuhl being both the seat of the EHSSA and the theater medical referral center. Several positions within the strategic apex serve also as primary staff for the EHSSA. Within the operating core one can find physicians who are specialists within their respective fields and act also as their specialty consultant for the EHSSA.

To fully appreciate and understand organizations it is necessary to study their climates (Flarey, 1993). Due to the inherent organizational complexity of hospitals studies assessing the work environment climate have not been readily undertaken. The work environment climate can be viewed as those characteristics of the organization which are reasonably stable, differentiate organizations, and influence the behaviors of its members. The manner by which an organization deals with its members gives rise to certain attributes that may be perceived about its climate (Turnipseed, 1990). The work environment has long been a source of influence on individual's behavior and can be understood as the character of a setting or organization (Tumulty, Jernigan and Kohut, 1994). Morana suggests that successful companies are those with satisfied customers. If the company is successful its employees will be satisfied. Organizational surveys can provide managers with a powerful motivational device. Surveys allow employees to feel as if they are part of the decision process; their views are important to management (Rosenfeld, Edwards and Thomas, 1993).

### **Statement of the Management Problem**

What environmental attributes present at Landstuhl Regional Medical Center may give rise to low or high levels of employee job satisfaction and thus give rise to lower or higher levels of patient care and satisfaction.

## **Review of the Literature**

The need to identify factors that result in low levels of job satisfaction is increasingly relevant in today's health care environment. The first impression that a patient may have of an institution will often be based on his or her treatment by the staff. Of all the factors contributing to a patient's satisfaction, no single one has a more direct impact than the employees (Morana, 1987). The literature suggests that particularly low levels of job satisfaction are reported in human services organizations as compared with other types of organizations (Tumulty, Jernigan and Kohut, 1994). The Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) recognizes the importance of assessing the job satisfaction of health care employees. Under the 1996 JCAHO standards, organizations are even assessed on their implementation of processes or mechanisms which include the use of employee satisfaction surveys (1996 Comprehensive Accreditation Manual for Hospitals, 1996). Surveys are popular in organizations because, when done properly, they provide accurate information about major organizational issues (Rosenfeld, Edwards and Thomas, 1993). Organizational surveys have gained favor due to their adaptability. It is this feature that allows surveys to be utilized for such diverse purposes as measuring employee needs, assessing employees' attitudes about the workplace and assessing employees' morale and motivation. Although many variables have been linked with turnover, job satisfaction is mentioned most often (Peter, 1994). Brady suggests that job dissatisfaction is primarily related to company policy and administration, supervision, working conditions, and salary. Most job satisfaction issues have been done with blue collar workers, though

several studies have focused on health professionals (Shuggars and others, 1991). An instrument that had been used in studies similar as the one proposed for Landstuhl was uncovered during the literature review phase. This survey instrument is the Work Environment Scale (WES), Form R, developed by Dr. Rudolf H. Moos at Stanford University.

The instrument is subdivided into ten scales; involvement, peer cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, control, innovation and physical comfort. The accompanying manual with the WES provides normative values based on the aforementioned scales. The WES can be used to describe workplace social environments, to contrast manager's and employee's views of their work groups, and to compare actual and preferred work environments (Moos, 1994).

The unique employee mix at LRMC was of concern during the development of additional questions for inclusion with the WES. Question development was based upon personal observation during the rotation phase of this residency. Mays and Pope (1995) suggests that in order to learn about a social group, one should "submit oneself in the company of the members to the daily round of petty contingencies to which they are subject."

### **Purpose of the Study**

The purpose of this study is to explore the relationship of the organization and unit work environments to employee satisfaction. This project is an effort by which to measure the organization's management, structure, and processes through the use of a

social climate scale which is applicable to health care organizations. The hypotheses tested were as follows:

**Hypothesis 1.**

Ho: There is not a significant difference between LRMC health care employee work force satisfaction levels and satisfaction levels of normative health care employees as reported by Moos.

Ha: There is a significant difference between LRMC health care employee work force satisfaction levels and satisfaction levels of normative health care employees as reported by Moos.

**Hypothesis 2.**

Ho: There is not a significant difference between the older health care employee work force and the younger health care employee work force employed at LRMC with respect to employee satisfaction.

Ha: There is a significant difference between the older health care employee work force and the younger health care employee work force at LRMC with respect to employee satisfaction.

### **Hypothesis 3.**

Ho: There is not a significant difference between the male health care employee work force and the female health care employee work force at LRMC with respect to employee satisfaction.

Ha: There is a significant difference between the male health care employee work force and the female health care employee work force at LRMC with respect to employee satisfaction.

### **Hypothesis 4**

Ho: There is not a significant difference between the three Deputy Commander's employees' satisfaction levels.

Ha: There is a significant difference between the three Deputy Commander's employees' satisfaction levels.

## **II. METHODS AND PROCEDURES**

### **Landstuhl Organizational Mix**

The employee mix at Landstuhl Regional Medical Center consists of 1,561 personnel. The organizational workforce as reflected on Landstuhl's Table of Distribution and Allowances (TDA) is comprised of a diversified mix of employees which includes: United States Army, Navy, Air Force personnel; United States government civilian employees, civilian contracted personnel and German host nation employees.



## **Survey Instrument**

Emory and Cooper (1991) suggests that for some topics, the process of crafting an instrument through inventing and refining questions can be shortened by a careful review of the related literature and an examination of existing instrument sourcebooks. The WES was chosen due to its use in the assessment of work environments in the health care arena (Moos, 1994). The scale is not limited to this general arena alone. It has the potential to be utilized for program evaluations. Work climate assessments are the most useful when a work setting encounters change or needs to change. Assessments can further help managers identify how changes in their behavior can affect the climate in their work group (Moos, 1994). Appropriate times to consider conducting an evaluation would include: to assess possible problems within a workgroup, to identify work climates that may place the work group at risk, to foster team growth, to determine leadership effectiveness, to use before a planned organizational change, to use as a means to promote change, and to evaluate the effects of change on the work group.

The Work Environment Scale consists of ninety items. The test is scored utilizing a template. Raw scores are obtained from the answer sheet for each of the ten subclasses. The raw score is then converted to a standard score through the use of conversion tables provided in the test manual. The average score for all respondents can then be calculated from the individual test scores. A profile of the test results can then be readily plotted.

The development of the WES focused on the use of broad constructs and is consistent with the current view of workplace assessment. The criteria utilized in the

development of the scale included: items correlating highly with their own subscale, each subscale should have low to moderate intercorrelation and that no more than 80 percent of respondents should answer an item in one direction (Moos, 1994). The WES is a social climate scale that has been demonstrated to be both a valid and reliable instrument (Moos, 1994). The WES has been utilized to assist management in the determination of employee satisfaction with their work environment. The WES is divided into 10 subscales which measure the actual, preferred, and expected social environments of work settings. These subscales assess three underlying sets of dimensions: relationship dimensions, personal growth (or goal orientation) dimensions, and system maintenance and change dimensions. Normative data for the WES was derived from sampling 4,879 health care workers who completed this instrument. A raw score is obtained for each subscale. The raw scores may range from a low of 0 to a high of 9. The normative data for health care workers as reported by Moos ranges from a low mean score of 3.77 for physical comfort to a high mean score of 5.70 for task orientation.

### **Landstuhl Instrument**

An additional set of questions were developed for inclusion that are specifically geared to the work environment at Landstuhl and a demographic questionnaire was also developed to assist in identifying any within or between group response differences.

### **Content Validity**

These additional items were developed by examining areas of interest obtained through interviews conducted during the first two quarters of the residency rotation. The

items then were reviewed by an expert panel. The use of dichotomous questions was intended to retain consistency with the WES questionnaire format. One should pilot test a questionnaire to a sample of 10 to 15 of the survey population to identify statements that are ambiguous, difficult to understand, overly intimidating, or which might encourage response bias (Elbeck, 1987). A pretest of the questionnaire was conducted with a convenience sample of  $n = 30$ . This resulted in a one-hundred percent response rate. The questionnaire responses were coded and analyzed utilizing the factor analysis module of the Statistical Package for Social Sciences (SPSS) 6.1 for Windows. Because the questionnaire was dichotomous (true and false), the coding required three distinct variables; 1 = true, 0 = false and 9 = missing data. Factorial analysis is a statistical procedure that is used to identify a relatively small number of factors that can be used to represent relationships among sets of many interrelated variables (Norusis, 1994). The first step involved was the generation of a correlation matrix for all variables. This allows for the ready identification of variables that do not appear to be related to other variables within the matrix. The next step is factor extraction. The number of factors that are required to represent the data is determined. It is at this stage that one determines how well the model fits the data. The next step is rotation. The rotation method chosen was the varimax (orthogonal) rotation. Often the variables and factors do not appear correlated in any interpretable pattern. Most factors are correlated with many variables. Since one of the goals is to identify factors that are substantively meaningful (in the sense that they summarize sets of closely related variables), the rotation phase of factor analysis attempts to transform the initial matrix into one that is easier to interpret (Norusis, 1994).

Employing a method of orthogonal rotation is preferred over oblique rotation, as the former is much simpler to understand and interpret. One should not be overly concerned about the choice of the particular rotation method, as almost any readily available method of rotation will do the job (Kim, 1978). The varimax method attempts to minimize the number of variables with high loadings on a factor and thus allow for an easier interpretability of the factors (Norusis, 1994).

### **Construct Validity**

A principal components factor analysis with Varimax rotation was conducted on the newly developed 19 item scale to explore the convergence of items on factors.

### **Factor Analysis**

The 19 item scale was submitted to a principal components factor analysis with Varimax rotation which led to a factor solution of six factors with eigenvalues above 1. Based on items that did not load clearly on factors, 3 items were dropped from the scale, resulting in a 16 item instrument and 5 factors. The 16 item instrument led to a five factor solution explaining 68% of the variance. The five factors (see table 1 and 2) were labeled **Communication** (three items with eigenvalue = 5.12, 26.9% variance);

**Provision for Process Improvement** (five items with eigenvalue = 2.84, 14.9% variance); **Relationship Motivated Leadership** (three items with eigenvalue = 1.98, 10.4% variance); **Situational Importance** (two items with eigenvalue = 1.51, 8% variance) and **Self Reliance** (three items with eigenvalue = 1.22, 6.4% variance). The items comprising the five factors were information sharing, recognition for contributions,

supervisors sharing communication (**Communication**); continuous quality improvement, focal point, authority, mistakes, strive (**Provision for Process Improvement**); entrust employees with responsibility, no sense of direction, good intercommunication (**Relationship Motivated Leadership**); crisis, public recognition, (**Situational Importance**); and lack of needed supplies, equipment to accomplish the job and concern with self (**Self Reliance**).

The results of the factor loading are presented in Table 1 and the subscales with their alpha reliability are presented in Table 2.

**Table 1. Factor Loading and Factor Structure for the Landstuhl Instrument**

ITEMS	FACTORS*				
	1	2	3	4	5
Equipment Availability	-.221				
Entrust employees with responsibility		.404	<b>.757</b>	-.205	
Lack of needed supplies		.246			<b>.843</b>
Supervisors sharing communication	<b>.505</b>		.467	.223	
Equipment to accomplish the job	-.237				<b>.650</b>
Crisis				<b>.846</b>	
Supervisors take credit	-.784		-.292		
Public recognition				<b>.463</b>	-.599
No sense of direction	.300		<b>.670</b>	-.373	-.248
Continuous quality improvement		<b>.559</b>		-.581	
Supervisors stress process improvement	.397	.413	.211		-.282
Information is readily shared	<b>.836</b>		.200		
Good intercommunication	.556		<b>.587</b>		
Recognition for Contributions	<b>.637</b>	.597			
Authority	.294	<b>.742</b>			
Mistakes		<b>.649</b>			
Concern	-.723				<b>.229</b>
Focal Point		<b>.821</b>			
Strive		<b>.591</b>	-.419	-.410	

\*Factors are 1, Communication; 2, Provision for Process Improvement; 3, Relationship Motivated Leadership; 4, Situational Importance; 5, Self Reliance.

Note: Factors are selected according to where they load the highest.

**Table 2. Subscales Derived through Factor Analysis and Their Alpha Reliability**

Internal Consistency of the Landstuhl Unique Instrument and Its Subscales (n = 30)		
Subscales	Number of Items	Alpha
Communication	3	.697
Provision for Process Improvement	5	.750
Relationship Motivated Leadership	3	.632
Situational Importance	2	.233
Self Reliance	3	.570

### **Survey Administration**

The task of determining who would be administered the survey was done utilizing a simple random selection using SPSS. This was deemed most appropriate as stratification into various groups would result in under-representation of some (small) groups in the survey. The issue of response bias is reduced if those responding are representative of all those who could respond (Hall, 1994). The total number of surveys distributed was 650. The surveys were distributed through LRMC's mail room. This method of survey administration was chosen due to the nature of respondent reluctance to report controversial attitudes in interviews. However, they are willing to respond to self-administered questionnaires, which are generally cheaper to conduct (Hall, 1994). The question of anonymity is without a doubt of concern. The instrument was not coded in any fashion that would allow for the easy recognition of the respondent. The respondents were assured in writing (on the instrument) that results would be treated as confidential and anonymous.

The administrative requirements encountered included: obtaining exemption from clinical investigation committee review for the survey administration, the translation of the survey instrument into German for local national employees, developing a cover letter explaining the purpose of the survey, photocopying the survey instrument, assembly of survey packets (to include a preaddressed, postage free, return address) and arrangement with the organizational mailroom for distribution of the survey and follow-up reminder. Follow-up notices were sent to all potential respondents. Follow-up reminders serve as a method to increase response return rates (Edwards and Thomas, 1993). A survey of this length does raise some concerns about response rates, as longer surveys may result in lower response rates. If completion is voluntary, the trade off is between more detail or more responses (Jones and Simmons, 1994).

### **Statistical Methods**

Upon return of surveys a data base was established. Any missing responses were entered into the data base with the use of a marker ( 9 = missing). For negatively worded items in the LRMC developed instrument the response item was recoded to allow for the proper count of binary coded data. Frequencies were obtained for each item to ensure proper coding. Descriptive statistics ( means and standard deviations) were run for each item. Inferential statistics (ANOVA) were then calculated to detect any significant differences between the groups of interest. The alpha level was set at .05 for all tests.

## **Expected Findings and Utility of Results**

Moos and his colleagues obtained normative data for 8,146 employees: 3,267 employees in general work groups and 4,879 employees in health care work groups. The general work group consisted of individuals in retail food industry, office managers, clerical workers, educators and over 800 individuals who were randomly selected utilizing census tracts for the San Francisco area. Health care workers included employees of government, university affiliated and private sector medical facilities. Overall, employees in general work settings rate **involvement**, **coworker cohesion**, **supervisor support**, and **clarity** higher than employees in health care settings (Moos, 1994). Moos suggests that those in general work settings have more autonomy, greater physical comfort, and less work pressure and managerial control. This study examined whether the Landstuhl work force's perceptions were consistent with or different from the perceptions of the normative health care workers. The use of the WES is intended to provide the senior leadership a tool by which they may evaluate the workplace climate, provide an understanding of individual's perceptions of the workplace, and compare the link between work climates and outcomes for groups at Landstuhl Regional Medical Center.

In preparation for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) a personnel satisfaction survey was conducted of the employees of Landstuhl Regional Medical Center (LRMC). This survey was conducted to meet the requirements of the Joint Commission as well as provide a benchmark for determining how the employees of LRMC view their work environment.



The survey at LRMC was administered on two separate occasions. The first was conducted in February of 1996 and a subsequent follow-up administration was conducted the following month. A copy of the survey instrument is located at Appendix A. The survey was mailed out to 650 randomly selected employees. This random sample was comprised of officer and enlisted personnel, local national employees, and United States government civil service employees. A total of 174 surveys ( $n = 174$ ) were completed and returned (cost free to the respondents). This resulted in a return rate of approximately 27 % (26.76%). The literature suggests that surveys administered by mail have a response rate of 20 to 30% (Burns and Grove, 1987). Further analysis revealed that 39 individuals or 22.4% indicated that they worked under the Deputy Commander for Administration, 65 individuals or 37.4% of the respondents fell under the Deputy Commander for Clinical Services and 45 or 25.9% reported that they were aligned under the Deputy Commander for Nursing. These responses equate to a cumulative percentage of 85.5% of respondents. The remaining 25 individuals or 14.5% did not indicate for which Deputy Commander they worked.

The following represent the aggregated results for LRMC and the normative data for each of the WES subscales. The scoring of each nine-item WES subscale (each item being dichotomous) may result in a total score from zero (disagreement with all items) to nine (agreement with all items). In all ten of Moos' constructs, a higher mean score indicates more positive respondent perceptions about each dimension that was measured in the sample. A comparison of the normative data with that of the LRMC data can be of

benefit to both the senior leadership and the employees of LRMC. Areas in which the normative data and the LRMC data differ materially may warrant further investigation.

The first area of consideration is that of the relationship dimension: involvement, coworker cohesion, and supervisor support.

### **Involvement**

**Involvement is defined as the extent to which employees are concerned about and committed to their jobs. The survey questions that were utilized to determine the level of involvement are: 1, 11, 21, 31, 41, 51, 61, 71 and 81 (See Appendix A).**

In the area of involvement it was found that the employees of LRMC were within a comparable range as compared with the health care work groups studied by Moos. LRMC's personnel had a mean of 4.80 with a standard deviation of 2.55 ( A higher mean score reflects perceptions of greater commitment). The normative data for the WES resulted in a mean of 5.43 with a standard deviation of 2.26. The LRMC results are slightly lower than those reported by other health care workers. This finding suggests that the employees of LRMC view involvement somewhat lower than the health care workers sampled by Moos, although it was not statistically significant.

### **Coworker Cohesion**

**Coworker cohesion is defined as how much employees are encouraged to be self-sufficient and to make their own decisions. The questions that were utilized to determine the level of coworker cohesion are: 2, 12, 22, 32, 42, 52, 62, 72 and 82.**

The normative data reported for coworker cohesion has a mean of 5.24 with a standard deviation of 1.99. LRMC's aggregated response to coworker cohesion resulted

in a mean of 4.75 with a standard deviation of 2.58. Though LRMC's results are slightly lower than those as reported by Moos, LRMC employees fall within one standard deviation of the score of other health care workers in regards to self-sufficiency.

### **Supervisor Support**

**Supervisor support is defined as the extent to which management is supportive of employees and encourages employees to be supportive of one another. The questions that were utilized to determine the level of supervisor support are: 3, 13, 23, 33, 43, 53, 63, 73 and 83.**

The normative data for supervisor support resulted in a mean of 4.82 with a standard deviation of 2.21. The response from the LRMC survey resulted in a mean of 4.80 and a standard deviation of 2.48. These results indicate LRMC employees are virtually identical to the health care workers studied by Moos with regard to managerial support.

The next area of consideration is that of the personal growth dimension. This area is comprised of autonomy, task orientation and work pressure.

### **Autonomy**

**Autonomy is defined as how much employees are encouraged to be self-sufficient and to make their own decisions. The questions that were utilized to determine the level of autonomy are: 4, 14, 24, 34, 44, 54, 64, 74 and 84.**

The reported response from LRMC employees resulted in a mean of 5.06 with a standard deviation of 2.20. In comparison, the data that Moos reports on has a mean of 5.20 with a standard deviation of 1.96. Again, the results for LRMC are very similar to

those reported by Moos. This would indicate that self sufficiency is encouraged by supervisors in the Moos and LRMC samples, and that the employees recognize this.

### **Task Orientation**

**Task orientation is defined as the emphasis on good planning, efficiency, and getting the job done. The questions that were utilized to determine the level of task orientation are: 5, 15, 25, 35, 45, 55, 65, 75 and 85.**

As reported the normative data has a mean of 5.70 with a standard deviation of 2.00. The data as reported by LRMC personnel resulted in a mean of 4.94 with a standard deviation of 2.51. Though below the mean of the normative group, LRMC's mean is not statistically different compared with that of other health care workers in Moos sample. With the continued emphasis within the health care industry on identifying processes that can be earmarked for improvement, task orientation will become an increasingly important factor.

### **Work Pressure**

**Work pressure is defined as the degree to which high work demands and time pressure dominate the job milieu. The questions that were utilized to determine the level of work pressure are: 6, 16, 26, 36, 46, 56, 66, 76 and 86.**

The data as collected by Moos resulted in a mean of 5.65 and a standard deviation of 2.18. The LRMC mean for this subscale was slightly higher, 5.96 with a standard deviation of 2.51. LRMC's slightly higher perceptions of work pressure may related to the increased operational tempo as a result of the role in which this community and

facility have been involved in the deployment of forces to the former Yugoslavia. The organization's leaders should be sensitive toward the staff's perception of work pressure.

The final area of consideration is that of system maintenance and change dimensions. This area is comprised of clarity, managerial control, innovation, and physical comfort.

### **Clarity**

**Clarity is defined as whether employees know what to expect in their daily routine and how explicitly rules and policies are communicated. The questions that were utilized to determine the level of clarity are: 7, 17, 27, 37, 47, 57, 67, 77 and 87.**

The normative data for clarity resulted in a mean of 4.50 and a standard deviation of 1.95. The data as reported by LRMC personnel resulted in a mean of 3.94 with a standard deviation of 2.61. Again, though LRMC's data is slightly lower it would appear that within this organization, clarity is comparably ranked with the view of other health care workers, although both groups perceived relatively low levels of clarity on the 0 - 9 scale.

### **Managerial Control**

**Managerial control is defined as how much management uses rules and procedures to keep employees under control. The questions that were utilized to determine the level of managerial control are: 8, 18, 28, 38, 48, 58, 68, 78 and 88.**

The data as reported by Moos for health care workers resulted in a mean of 5.57 with a standard deviation of 1.89, while the LRMC employees reported a mean of 5.21 and a standard deviation of 1.92. The LRMC findings compare quite favorably with that

of other health care workers. At first blush one would suspect that LRMC's findings would be higher due to the inherent nature of control within military organizations. Upon further consideration, it could be argued that because the health care industry is one of the most highly regulated industries the data would reflect that rules and procedures dominate the work environment within the entire health care industry.

### **Innovation**

**Innovation is defined as the emphasis on variety, change, and new approaches. The questions that were utilized to determine the level of innovation are: 9, 19, 29, 39, 49, 59, 69, 79 and 89.**

Moos reports that the mean for innovation is 3.9 and the standard deviation is 2.34. LRMC's reported findings were a mean of 3.37 with a standard deviation of 2.48. The LRMC findings, though slightly below that of other health care workers, are not statistically different. Both groups rank innovation relatively low. As the focus within the health care industry changes toward that of continually seeking process improvements, innovation will increasingly become more important across the health care spectrum.

### **Physical Comfort**

**Physical comfort is defined as the extent to which the physical surroundings contribute to a pleasant work environment. The questions that were utilized to determine the level of physical comfort are: 10, 20, 30, 40, 50, 60, 70, 80 and 90.**

The data as reported by health care workers resulted in a mean of 3.77 with a standard deviation of 2.18. The LRMC survey resulted in a mean of 2.87 with a standard

deviation of 1.89. Though LRMCs mean score is lower than the normative group this finding is not statistically significant. LRMC's somewhat lower perceptions of physical comfort may be related to the age of the physical plant. This facility is based on a 1950's design. The facility is undergoing numerous renovation projects. These projects are not so much cosmetic as they are truly functional improvements that have an added benefit of introducing some cosmetic improvements. Future assessment of this area would well be worth revisiting after the major renovation projects have all been completed.

A graphical representation of the means derived for LRMC respondents in comparison with Moos is located at Appendix B.

Inferential statistics were completed on the fifteen content areas (ten areas as defined in the Work Environment Survey and the remaining five that were developed for LRMC) to determine if there were any significant differences between LRMC participants based on their age. The breakpoint for age was 39.5 years old. Binary coding for the higher age group was accomplished by a one (1), that is if an individual was  $\geq 39.5$  years old they were coded 1 and if an individual were  $< 39.5$  years old they were coded as a zero (0). Analysis of variance (ANOVA) was conducted on the fifteen content areas. The following constructs were statistically significant ( $\alpha \leq .05$ ) with respect to age.

ANOVA indicated that the content area **involvement** was statistically significant ( $p = .0000$ ) for those respondents classified as older. In the Moos instrument, involvement is part of the relationship dimension and it attempts to quantify just how committed and concerned an individual or group is to their job. It is reasonable to

presume that individuals who are forty or older would exhibit a predisposition for commitment to their job compared to individuals who are younger. When individuals become more mature they want involvement and in particular significant involvement (Covey, 1989).

Older respondents showed a marked statistical significance ( $p = .0044$ ) when it came to the subject of **coworker cohesion**. Moos defines coworker cohesion as how much employees are friendly and supportive of one another. Within the military arena this should not be of any surprise. Rank within today's military is a function of age. Those who are older tend to be at higher levels of grade and they will tend to have developed close ties with those of similar rank.

The participants in this survey showed a marked statistical significance ( $p = .0025$ ) for **supervisory support**. This subscale of the relationship dimension is concerned with to what extent that management is supportive of and encourages employees to be supportive of one another. The older respondents would appear to feel that management is supportive and that employees are supportive of one another. Given the premise that rank is a function of age the older respondents would tend to be in managerial roles. They would then tend to view themselves as supportive and see their subordinates in the same light.

The personal growth dimension of **autonomy** was statistically significant ( $p = .0114$ ) between older and younger respondents. Autonomy is characterized by the extent or degree in which individuals feel that they are encouraged to be self sufficient and are able to make decisions on their own. This sense of self sufficiency can be looked at as a



product of maturation. As one develops in his/her profession and as the work force ages one would expect that they would no longer require to be given explicit instructions in how to carry about the process of accomplishing those tasks that constitute their job. As one achieves higher rank, one has more control over one's immediate environment and what tasks one performs (Blount and others, 1995).

**Task Orientation** reports on the ability to accomplish a task with little or no supervision. This is statistically significant ( $p = .0012$ ) for the LRMC respondents. Task orientation is defined as the emphasis on good planning, efficiency, and getting the job done. It can be inferred that with an older work force the development of tried and true planning methods would be established and that the older respondents would be able to exploit those methods to increase efficiencies.

The third dimension that the Work Environment Survey (WES) looks at is that of system maintenance and change dimensions. This dimension's subscales are defined as clarity, managerial control, innovation, and physical comfort.

Within LRMC's population statistical significance ( $p = .003$ ) was found for **clarity** with regard to age. This subscale addresses whether the employees have knowledge about what is expected of an individual in their daily routine and how explicitly rules and policies are communicated. The older work force within a military setting would be expected to be familiar with how information flows within the organization. The formal flow of information is taught at all levels of formal military education and becomes second nature in military personnel and presumably those who work in a military environment. This should hold true for the older population that has

been exposed to a formal reporting and information system that relies on the senior level to disseminate information to their subordinates. This hierarchical reporting of information allows for an efficient means for the dissemination of information. With this time proven and structured approach to dissemination of information it should be of no surprise that the older respondents would show a greater favorable response regarding clarity.

An additional dimension in which the LRMC respondents showed statistical significance ( $p = .0052$ ) was in the area of **innovation**. Moos describes innovation as the emphasis on variety, change and new approaches. Within the military setting it is not uncommon for individuals to move every three to four years and begin afresh at a new duty assignment and in a new job. This state of continual movement and change can be very beneficial to an organization as it brings in people with a host of new ideas and experiences. Keeping this in mind it should come as no surprise that the older respondents indicated the positive response to innovation.

The **provision for process improvement** subscale was developed for the LRMC unique instrument and is intended to measure how well the respondents view the organization's efforts in the realm of quality improvement. Within the health care arena the emphasis placed on quality improvement is driven by efforts at all levels. This emphasis on quality health care delivery through a systematic approach to continuous quality improvement is one of the primary areas that the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) looks at. In order for any program to be effective there must exist support from the leadership hierarchy to ensure program

success. With respect to age, survey respondents reported a statistical significance ( $p = .0009$ ) for provision for process improvement. It can be inferred that LRMC's older respondents believe that continuous quality improvement is pursued and supported.

**Communication** was another area in which older survey respondents reported higher scores than younger employees ( $p = .0011$ ). Communication as defined for the LRMC- developed instrument is concerned with the sharing and dissemination of information and the sense that one receives recognition for his contributions.

**Relationship motivated leadership** attempts to address how employees perceive the direction in which the organization is headed, how well this is communicated and if the organization empowers the employees to carry out the instructions necessary to move the organization in the direction that the leadership has determined it should go in. The older employees reported higher scores than did younger employees ( $p = .0003$ ). Older respondents view that not only are they aware of the direction in which the organization is going compared with younger respondents, but also older respondents apparently feel that they are empowered to make the organization move in that direction. Older respondents have a more favorable view on how well the leadership communicates what direction the organization should go in.

It was found that **workpressure, managerial control, physical comfort, importance, and self reliance** were not statistically significant when comparing younger and older respondent groups. A summary table comparing younger and older respondents follows:

**Table 3. Summary of Age Analysis**

Content Area Subscale	<39	>39	F ratio	df	p
	Mean Scores				
Involvement	4.28	6.19	19.900	1,143	.0000
Coworker Cohesion	4.55	5.80	8.370	1,143	.0044
Supervisor Support	4.47	5.76	9.500	1,143	.0025
Autonomy	4.79	5.74	6.570	1,143	.0014
Task Orientation	4.52	5.98	10.880	1,143	.0112
Work Pressure	5.69	6.27	1.805	1,143	ns
Clarity	3.48	5.09	13.960	1,143	.0003
Managerial Control	5.21	5.15	.027	1,143	ns
Innovation	3.08	4.29	8.036	1,143	.0052
Physical Comfort	2.86	3.13	.696	1,143	ns
Provision for Process Improvement	2.81	3.45	11.540	1,143	.0009
Communication	1.44	2.14	11.090	1,143	.0011
Relationship Motivated Leadership	1.82	2.49	13.930	1,143	.0003
Situational Importance	1.29	1.19	.794	1,143	ns
Self Reliance	1.43	1.54	.670	1,143	ns

The results of the analysis for the content areas for age are presented in Appendix C.

Inferential statistics were completed on the fifteen content areas (ten areas as defined in the Work Environment Survey and the remaining five that were developed for LRMC) to determine if there were any significant differences between LRMC participants based on their gender. Binary coding of the LRMC participants was employed. A one (1) represents those whose gender is male and a zero (0) for those whose gender is female. Analysis of variance (ANOVA) was conducted on the fifteen content areas.

Only the content area **task orientation** was statistically significant ( $p = .0439$ ) for the respondents. Task orientation as previously described is concerned with an emphasis on good planning, efficiency, and getting the job done. Female respondents indicated a greater tendency in this dimension.

The remaining fourteen content areas showed no gender-based statistical significance between the respondents. A summary table comparing gender follows:

**Table 4. Summary of Gender Analysis**

Content Area Subscale	Female Mean	Male Scores	F ratio	df	p
Involvement	5.11	4.60	1.505	1,158	ns
Coworker Cohesion	5.16	4.64	1.660	1,158	ns
Supervisor Support	4.52	5.09	2.034	1,158	ns
Autonomy	5.02	5.10	.044	1,158	ns
Task Orientation	5.44	4.62	4.125	1,158	.0439
Work Pressure	6.29	5.65	2.563	1,158	ns
Clarity	4.04	3.95	.043	1,158	ns
Managerial Control	5.09	5.30	.465	1,158	ns
Innovation	5.41	6.16	.878	1,158	ns
Physical Comfort	2.63	3.02	1.686	1,158	ns
Provision for Process Improvement	3.11	2.95	.755	1,158	ns
Communication	1.62	1.70	.164	1,158	ns
Relationship Motivated Leadership	1.90	2.14	2.047	1,158	ns
Situational Importance	1.23	1.31	.601	1,158	ns
Self Reliance	1.40	1.48	.474	1,158	ns

The results of the analysis for the content areas for gender are presented in Appendix D.

Inferential statistics were computed on the fifteen content areas to determine if there were any significant differences between the means of the three categories of Deputy Commander (Deputy Commander for Administration, Deputy Commander for Clinical Services and Deputy Commander for Nursing). The ANALYSIS OF VARIANCE (ANOVA) yielded no significant findings,  $p < .05$ . A summary table comparing gender follows:

**Table 5. Summary of Deputy Commander Analysis**

Content Area Subscale	DCA	DCCS	DCN	F ratio	df	p
	Mean Scores					
Involvement	5.00	5.18	4.22	1.960	2,146	ns
Coworker Cohesion	4.25	5.03	5.35	2.170	2,146	ns
Supervisor Support	4.82	5.04	4.64	2.190	2,146	ns
Autonomy	5.12	5.13	5.11	.002	2,146	ns
Task Orientation	5.12	5.23	4.46	1.350	2,146	ns
Work Pressure	6.33	5.60	6.02	1.080	2,146	ns
Clarity	3.97	4.04	3.91	.036	2,146	ns
Managerial Control	4.94	5.29	5.22	.036	2,146	ns
Innovation	3.53	3.32	3.26	.144	2,146	ns
Physical Comfort	3.17	2.89	2.66	.781	2,146	ns
Provision for Process Improvement	2.87	3.24	2.88	1.970	2,146	ns
Communication	1.48	1.73	1.66	.520	2,146	ns
Relationship Motivated Leadership	1.94	2.21	1.93	1.284	2,146	ns
Situational Importance	1.35	1.24	1.20	.612	2,146	ns
Self Reliance	1.76	1.35	1.37	3.920	2,146	ns

The results of the analysis for the content areas for Deputy Commander are presented in Appendix E.

### III. DISCUSSION

Job satisfaction has been defined as "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values (Duke and Sneed, 1989). This project measured the organization's management, structure and processes through the use of a social ecological scale, the Work Environment Scale (WES). The scale uses a scoring assessment where respondents answer true or false to statements measuring one of ten different dimensions related to the social climate of the organization (Klinge and others, 1995). This scale assess how

people perceive the social climate of their work setting (Abraham and Foley, 1984). The target population for this survey was both blue and white collar health care employees employed at the largest United States military hospital in Europe.

The requirements leading up to the administration of this survey were compounded by the need to have a translation of the instrument into German. The concern was that those local nationals who were randomly selected to participate could very well have difficulty with the English version.

Response rates for the survey were less than ideal. Organizational surveys often have fairly low response rates. It is typical to pull a response rate of 25 to 40% with 30% as seen as an acceptable rate (Smith and others, 1995). Sample surveys with low response rates can produce biased samples, particularly if key organizational characteristics affect the pattern of survey response (Tomaskovic-Devey and others, 1994). The response rate for the LRMC survey was approximately 27%. This rate was achieved even after following techniques aimed at developing the participants' commitment to the study and techniques to facilitate the ease with which the respondents could complete the material (Gordon and Stokes, 1989).

Inferential statistics were computed on the ten content areas to determine if there were any significant differences between the means of the LRMC respondents and health care employees as reported by Moos. No significant differences were found in the ten areas. The area of physical comfort was slightly lower (but not statistically significant) for the LRMC group compared to health care employees as reported by Moos. Physical comfort is concerned with to what extent do the plant and facility contribute to a pleasant

work environment. Morana notes that in ranking items from one to ten, employees indicated that good working conditions rated at seven and supervisors rated good working conditions at four in importance. A comparison was not conducted between LRMC employees and supervisors at this time.

Inferential statistics were further conducted on the fifteen content areas to determine if there were any statistical differences between LRMC participants based on their age. Significant findings were noted in ten of the fifteen content areas with the older respondents showing a higher mean score (more positive attitudes toward the attributes) than that of the junior participants.

Further differentiation of the respondents was conducted along gender lines. Inferential statistics were conducted to determine if there exists any statistical difference between the participants based on gender. It was noted that only one of the fifteen content areas showed any statistical significance based on gender. Female respondents showed a stronger inclination toward the content area task orientation than did the male respondents.

As an additional inquiry, inferential statistics were calculated on the fifteen content areas to determine if there were any statistical differences between the three categories of Deputy Commanders. No statistical significance was noted.

#### **IV. Conclusions and Recommendations**

The purpose of this study was to implement an employee satisfaction survey in response to JCAHO requirements. In an attempt to further differentiate the perceptions of



the LRMC workforce additional survey questions were developed. Reliability and validity of the work environment survey is well documented.

Baseline data was compiled and included results from descriptive and inferential statistics. A comparison of reported means from Moos's health care employee respondents and LRMC personnel was not statistically significant.

Upon further investigation it was determined that the older LRMC workforce reported statistically significant differences compared to younger LRMC employees in the following areas: **involvement** ( $p = .0000$ ), **coworker cohesion** ( $p = .0044$ ), **supervisor support** ( $p = .0025$ ), **autonomy** ( $p = .0114$ ), **task orientation** ( $p = .0112$ ), **clarity** ( $p = .0003$ ), **innovation** ( $p = .0052$ ), **provisions for process improvement** ( $p = .0009$ ), **communication** ( $p = .0011$ ), and **relationship motivated leadership** ( $p = .0003$ ).

Further examination of the data indicated that females ranked higher on **task orientation** ( $p = .0439$ ) compared with male respondents. The remaining fourteen did not reveal any gender based differences.

A final examination of the data was conducted to determine if there was any statistical difference between the content areas of Deputy Commander. Analysis of variation indicated no statistical differences for the fifteen areas.

It is interesting to note that some respondents affixed comments to the returned surveys. Although comments were not solicited they were welcomed. These comments ranged from the spiteful to the sublime. The value of these unsolicited comments is in their possible use for question development.

This survey would tend to indicate that LRMC health care employees are similar to the civilian health care employees surveyed by Moos. LRMC's older work force tend to report that they have a more positive view of the work environment than their younger counterparts. Further study of age specific differences in the work climate may prove to be of benefit to the leadership of LRMC

It is recommended that a resurvey of the organization be conducted next year. This would provide a means by which to determine if any areas surveyed changed significantly following the normal summer rotation of personnel in and out of this facility. This reexamination could also serve as an indicator to the work force that their input is actively sought in the ongoing effort to strive for improvement.

**Appendix A**  
**Survey Instrument**

**LANDSTUHL REGIONAL MEDICAL CENTER  
WORK ENVIRONMENT  
SURVEY**

**Privacy Act  
Information**

1. **Authority:**  
10 U.S.C. Sections 136 and 5 U.S.C. 552a; Executive Order 9397
2. **Disclosure:** I consent to the use of my answers by staff of Landstuhl Regional Medical Center to compile statistics of group data. I understand that my name or any other data from which I could be recognized will not be available to anyone other than the professional staff conducting the survey. I understand I have the right to withdraw my consent to participate in the study at any time.
3. **Purpose:** Landstuhl Regional Medical Center is conducting a study of employees to assess their satisfaction levels with different aspects of employment at Landstuhl Regional Medical Center.
4. **Uses:** I understand the purpose of this study is to develop information to benefit the employee population. I also understand that I may not directly benefit as a result of participating in this study.

**ALL ANSWERS ARE STRICTLY CONFIDENTIAL !**

**Instructions**

The attached questionnaire contains questions about the place in which you work. The intent is for the statements to apply to all work environments. Some of the words may not be applicable to your work environment. For example, the word supervisor is meant to refer to the boss, manager, department head, or the persons to whom an employee reports.

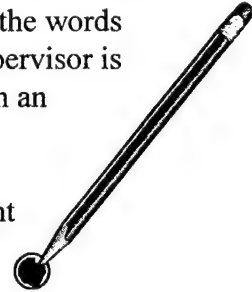
You are to decide which statements are true of your work environment and which are false. Mark your answer in the corresponding bubble.

If you think the statement is true or mostly true of your work environment, fill in the bubble under the TRUE column.

If you think the statement is false or mostly false of your work environment, fill in the bubble under the FALSE column.

The last portion of the questionnaire is a demographic survey. Please answer all portions of the questionnaire. **ALL ANSWERS ARE STRICTLY CONFIDENTIAL.**

Please be sure to answer every statement.



	TRUE	FALSE
1. The work is really challenging.	<input type="radio"/>	<input type="radio"/>
2. People go out of their way to help a new employee feel comfortable.	<input type="radio"/>	<input type="radio"/>
3. Supervisors tend to talk down to employees.	<input type="radio"/>	<input type="radio"/>
4. Few employees have any important responsibilities.	<input type="radio"/>	<input type="radio"/>
5. People pay a lot of attention to getting work done.	<input type="radio"/>	<input type="radio"/>
6. There is constant pressure to keep working.	<input type="radio"/>	<input type="radio"/>
7. Things are sometimes pretty disorganized.	<input type="radio"/>	<input type="radio"/>
8. There's strict emphasis on following policies and regulations.	<input type="radio"/>	<input type="radio"/>
9. Doing things in a different way is valued.	<input type="radio"/>	<input type="radio"/>
10. It sometimes gets to hot.	<input type="radio"/>	<input type="radio"/>
11. There's not much group spirit.	<input type="radio"/>	<input type="radio"/>
12. The atmosphere is somewhat impersonal.	<input type="radio"/>	<input type="radio"/>
13. Supervisors usually compliment an employee who does something well.	<input type="radio"/>	<input type="radio"/>
14. Employees have a great deal of freedom to do as they like.	<input type="radio"/>	<input type="radio"/>
15. There's a lot of time wasted because of inefficiencies.	<input type="radio"/>	<input type="radio"/>
16. There always seems to be an urgency about everything.	<input type="radio"/>	<input type="radio"/>
17. Activities are well planned.	<input type="radio"/>	<input type="radio"/>
18. People can wear wild looking clothing while on the job if they want.	<input type="radio"/>	<input type="radio"/>
19. New and different ideas are always being tried out.	<input type="radio"/>	<input type="radio"/>
20. The lighting is extremely good.	<input type="radio"/>	<input type="radio"/>
21. A lot of people seem to be just putting in time.	<input type="radio"/>	<input type="radio"/>
22. People take a personal interest in each other.	<input type="radio"/>	<input type="radio"/>
23. Supervisors tend to discourage criticisms from employees.	<input type="radio"/>	<input type="radio"/>
24. Employees are encouraged to make their own decisions.	<input type="radio"/>	<input type="radio"/>

	TRUE	FALSE
25. Things rarely get "put off till tomorrow."	<input type="radio"/>	<input type="radio"/>
26. People cannot afford to relax.	<input type="radio"/>	<input type="radio"/>
27. Rules and regulations are somewhat vague and ambiguous.	<input type="radio"/>	<input type="radio"/>
28. People are expected to follow set rules in doing their work.	<input type="radio"/>	<input type="radio"/>
29. This place would be one of the first to try out a new idea.	<input type="radio"/>	<input type="radio"/>
30. Work space is awfully crowded.	<input type="radio"/>	<input type="radio"/>
31. People seem to take pride in the organization.	<input type="radio"/>	<input type="radio"/>
32. Employees rarely do things together after work.	<input type="radio"/>	<input type="radio"/>
33. Supervisors usually give full credit to ideas contributed by employees.	<input type="radio"/>	<input type="radio"/>
34. People can use their own initiative to do things.	<input type="radio"/>	<input type="radio"/>
35. This is a highly efficient, work-oriented place.	<input type="radio"/>	<input type="radio"/>
36. Nobody works too hard.	<input type="radio"/>	<input type="radio"/>
37. The responsibilities of supervisors are clearly defined.	<input type="radio"/>	<input type="radio"/>
38. Supervisors keep a rather close watch on employees.	<input type="radio"/>	<input type="radio"/>
39. Variety and change are not particularly important.	<input type="radio"/>	<input type="radio"/>
40. This place has a stylish and modern appearance.	<input type="radio"/>	<input type="radio"/>
41. People put quite a lot of effort into what they do.	<input type="radio"/>	<input type="radio"/>
42. People are generally frank about how they feel.	<input type="radio"/>	<input type="radio"/>
43. Supervisors often criticize employees over minor things.	<input type="radio"/>	<input type="radio"/>
44. Supervisors encourage employees to rely on themselves when a problem arises.	<input type="radio"/>	<input type="radio"/>
45. Getting a lot of work done is important to people.	<input type="radio"/>	<input type="radio"/>
46. There is no time pressure.	<input type="radio"/>	<input type="radio"/>
47. The details of assigned jobs are generally explained to employees.	<input type="radio"/>	<input type="radio"/>
48. Rules and regulations are pretty well enforced.	<input type="radio"/>	<input type="radio"/>



	TRUE	FALSE
49. The same methods have been used for quite a long time.	<input type="radio"/>	<input type="radio"/>
50. The place could stand some new interior decorations.	<input type="radio"/>	<input type="radio"/>
51. Few people ever volunteer.	<input type="radio"/>	<input type="radio"/>
52. Employees often eat lunch together.	<input type="radio"/>	<input type="radio"/>
53. Employees generally feel free to ask for a raise.	<input type="radio"/>	<input type="radio"/>
54. Employees generally do not try to be unique and different.	<input type="radio"/>	<input type="radio"/>
55. There's an emphasis on "work before play."	<input type="radio"/>	<input type="radio"/>
56. It is very hard to keep up with your work load.	<input type="radio"/>	<input type="radio"/>
57. Employees are often confused about exactly what they are supposed to do.	<input type="radio"/>	<input type="radio"/>
58. Supervisors are always checking on employees and supervise them very closely.	<input type="radio"/>	<input type="radio"/>
59. New approaches to things are rarely tried.	<input type="radio"/>	<input type="radio"/>
60. The colors and decorations make the place warm and cheerful to work in.	<input type="radio"/>	<input type="radio"/>
61. It is quite a lively place.	<input type="radio"/>	<input type="radio"/>
62. Employees who differ greatly from the others in the organization don't get on well.	<input type="radio"/>	<input type="radio"/>
63. Supervisors expect far too much from employees.	<input type="radio"/>	<input type="radio"/>
64. Employees are encouraged to learn things even if they are not directly related to the job.	<input type="radio"/>	<input type="radio"/>
65. Employees work very hard.	<input type="radio"/>	<input type="radio"/>
66. You can take it easy and still get your work done.	<input type="radio"/>	<input type="radio"/>
67. Fringe benefits are fully explained to employees.	<input type="radio"/>	<input type="radio"/>
68. Supervisors do not often give in to employee pressure.	<input type="radio"/>	<input type="radio"/>
69. Things tend to stay just about the same.	<input type="radio"/>	<input type="radio"/>
70. It is rather drafty at times.	<input type="radio"/>	<input type="radio"/>

	TRUE	FALSE
71. It's hard to get people to do any extra work.	<input type="radio"/>	<input type="radio"/>
72. Employees often talk to each other about their personnel problems.	<input type="radio"/>	<input type="radio"/>
73. Employees discuss their personal problems with supervisors.	<input type="radio"/>	<input type="radio"/>
74. Employees function fairly independently of supervisors.	<input type="radio"/>	<input type="radio"/>
75. People seem to be quite inefficient.	<input type="radio"/>	<input type="radio"/>
76. There are always deadlines to be met.	<input type="radio"/>	<input type="radio"/>
77. Rules and policies are constantly changing.	<input type="radio"/>	<input type="radio"/>
78. Employees are expected to conform rather strictly to the rules and customs.	<input type="radio"/>	<input type="radio"/>
79. There is a fresh, novel atmosphere about the place.	<input type="radio"/>	<input type="radio"/>
80. The furniture is usually well-arranged.	<input type="radio"/>	<input type="radio"/>
81. The work is usually very interesting.	<input type="radio"/>	<input type="radio"/>
82. Often people make trouble by talking behind other's backs.	<input type="radio"/>	<input type="radio"/>
83. Supervisors really stand up for their people.	<input type="radio"/>	<input type="radio"/>
84. Supervisors meet with employees regularly to discuss their future work goals.	<input type="radio"/>	<input type="radio"/>
85. There's a tendency for people to come to work late.	<input type="radio"/>	<input type="radio"/>
86. People often have to work overtime to get their work done.	<input type="radio"/>	<input type="radio"/>
87. Supervisors encourage employees to be neat and orderly.	<input type="radio"/>	<input type="radio"/>
88. If an employee comes in late, he can make it up by staying late.	<input type="radio"/>	<input type="radio"/>
89. Things always seem to be changing.	<input type="radio"/>	<input type="radio"/>
90. The rooms are well ventilated.	<input type="radio"/>	<input type="radio"/>



	TRUE	FALSE
91. Supervisors entrust their employees with responsibility.	<input type="radio"/>	<input type="radio"/>
92. There frequently seems to be a lack of supplies.	<input type="radio"/>	<input type="radio"/>
93. Supervisors readily share information.	<input type="radio"/>	<input type="radio"/>
94. My section has the needed equipment to accomplish the job.	<input type="radio"/>	<input type="radio"/>
95. There often seems to be one crisis after another.	<input type="radio"/>	<input type="radio"/>
96. Public recognition motivates me to work harder.	<input type="radio"/>	<input type="radio"/>
97. My section has no sense of direction.	<input type="radio"/>	<input type="radio"/>
98. Continuous quality improvement is nonexistent in my section.	<input type="radio"/>	<input type="radio"/>
99. Information is frequently shared.	<input type="radio"/>	<input type="radio"/>
100. There is good supervisor and employee intercommunication.	<input type="radio"/>	<input type="radio"/>
101. People are recognized for their contributions.	<input type="radio"/>	<input type="radio"/>
102. Employees are given both authority and responsibility.	<input type="radio"/>	<input type="radio"/>
103. People are not afraid to admit mistakes.	<input type="radio"/>	<input type="radio"/>
104. People are more concerned about themselves than others.	<input type="radio"/>	<input type="radio"/>
105. Patients are the primary focal point here.	<input type="radio"/>	<input type="radio"/>
106. Employees strive for continuous improvement.	<input type="radio"/>	<input type="radio"/>

THANK YOU FOR COMPLETING THE SURVEY, PLEASE REMOVE THE LAST PAGE, THE PAGE WITH YOUR NAME LABEL, FOLD IN HALF, STAPLE CLOSED, AND RETURN THE SURVEY TO MAJ FOLEY, ADMINISTRATIVE RESIDENT, LRMC HQ.

**ALLE ANTWORTEN WERDEN VERTRAULICH BEHANDELT**

**Instruktionen**

Der beiliegende Fragebogen enthaelt Fragen ueber Ihren Arbeitsplatz. Die Aussagen sollen moeglichst auf jeden Arbeitsplatz zutreffen. Manche der Ausdruecke werden vielleicht nicht auf Ihren Arbeitsplatz zutreffen. So ist zum Beispiel mit Vorgesetzter der "Boss, Manager, Abteilungschef" oder die Person gemeint, die Ihnen unmittelbar vorsteht.

Entscheiden Sie welche der Aussagen fuer Ihren Arbeitsplatz RICHTIG oder FALSCH sind. Streichen Sie Ihre Antwort in dem betreffenden KREIS an.

Wenn Sie eine Aussage fuer Ihren Arbeitsplatz fuer ueberwiegend richtig ansehen, markieren Sie diese bitte unter RICHTIG.

Wenn Sie eine Aussage fuer Ihren Arbeitsplatz fuer ueberwiegend falsch ansehen, markieren Sie diese bitte unter FALSCH.

Der letzte Teil des Fragebogens ist eine Demographische Umfrage. Bitte beantworten Sie alle Teile des Fragebogens. **ALLE ANTWORTEN WERDEN VERTRAULICH BEHANDELT.**

Bitte ueberzeugen Sie sich davon, dass alle Teile des Fragebogens ausgefuellt. sind.

- |  | RICHTIG               | FALSCH                |
|--|-----------------------|-----------------------|
| 1. Die Arbeit ist eine echte Herausforderung .....                                 | <input type="radio"/> | <input type="radio"/> |
| 2. Man ist bemüht, einem neuen Mitarbeiter die Einarbeitung zu erleichtern.....    | <input type="radio"/> | <input type="radio"/> |
| 3. Vorgesetzte sehen auf Untergebene herab .....                                   | <input type="radio"/> | <input type="radio"/> |
| 4. Wenige Arbeitnehmer haben eine verantwortungsvolle Aufgabe .....                | <input type="radio"/> | <input type="radio"/> |
| 5. Man bemüht sich sehr, die Aufgaben zu bewältigen.....                           | <input type="radio"/> | <input type="radio"/> |
| 6. Man steht unter ständigem Zeitdruck.....  | <input type="radio"/> | <input type="radio"/> |
| 7. Abläufe sind manchmal sehr schlecht organisiert .....                           | <input type="radio"/> | <input type="radio"/> |
| 8. Der Einhaltung von Regeln und Vorschriften wird Nachdruck verliehen .....       | <input type="radio"/> | <input type="radio"/> |
| 9. Neue Wege Aufgaben zu bewältigen werden geschätzt .....                         | <input type="radio"/> | <input type="radio"/> |
| 10. Manchmal geht es zu heiss her .....  | <input type="radio"/> | <input type="radio"/> |
| 11. Es besteht kein guter Teamgeist .....  | <input type="radio"/> | <input type="radio"/> |
| 12. Die Atmosphäre ist etwas unpersönlich.....                                     | <input type="radio"/> | <input type="radio"/> |
| 13. Vorgesetzte loben Arbeitnehmer für besonders gute Arbeit.....                  | <input type="radio"/> | <input type="radio"/> |
| 14. Beschäftigte haben sehr grosse Freiheiten .....                                | <input type="radio"/> | <input type="radio"/> |
| 15. Es wird viel Zeit durch Unzulänglichkeiten verschwendet .....                  | <input type="radio"/> | <input type="radio"/> |
| 16. Alles scheint immer dringend zu sein .....                                     | <input type="radio"/> | <input type="radio"/> |
| 17. Tätigkeiten sind gut geplant.....  | <input type="radio"/> | <input type="radio"/> |
| 18. Die Beschäftigten können, wenn sie möchten, ausgefallene Kleidung tragen ..... | <input type="radio"/> | <input type="radio"/> |
| 19. Neue und andere Ideen werden immer ausprobiert.....                            | <input type="radio"/> | <input type="radio"/> |
| 20. Die Lichtverhältnisse sind ausgesprochen gut.....                              | <input type="radio"/> | <input type="radio"/> |
| 21. Viele Arbeitnehmer scheinen nur ihre Zeit abzusetzen .....                     | <input type="radio"/> | <input type="radio"/> |
| 22. Arbeitnehmer zeigen persönliches Interesse untereinander .....                 | <input type="radio"/> | <input type="radio"/> |
| 23. Kritik von Arbeitnehmern wird von Vorgesetzten nicht gerne gehört .....        | <input type="radio"/> | <input type="radio"/> |
| 24. Arbeitnehmer werden dazu ermutigt, eigene Entscheidungen zu treffen .....      | <input type="radio"/> | <input type="radio"/> |
| 25. Arbeit wird selten "auf morgen verschoben" .....                               | <input type="radio"/> | <input type="radio"/> |
| 26. Man kann es sich nicht leisten, sich zu entspannen .....                       | <input type="radio"/> | <input type="radio"/> |
| 27. Regeln und Vorschriften sind etwas vage und verschwommen.....                  | <input type="radio"/> | <input type="radio"/> |

28. Man erwartet, dass sich Arbeitnehmer bei der Erledigung ihrer Aufgaben an feste Regeln halten ..... O ..... O..
29. Hier wuerde man sofort neue Ideen ausprobieren ..... O ..... O..
30. Der Bewegungsraum am Arbeitsplatz ist sehr eingeschaenkt ..... O ..... O..
31. Arbeitnehmer sind stolz auf diese Dienststelle..... O ..... O..
32. Arbeitnehmer unternehmen selten etwas gemeinsam nach der Arbeit ..... O ..... O..
33. Vorgesetzte erkennen Ideen, die von Untergebenen eingebracht werden, voll an..... O ..... O..
34. Man kann Eigeninitiative beim Erledigen von Aufgaben entwickeln ..... O ..... O..
35. Dies ist eine leistungsfaeheige, arbeitsorientiertes Dienststelle ..... O ..... O..
36. Niemand arbeitet zu viel..... O ..... O..
37. Die Verantwortung der Vorgesetzten ist deutlich definiert ..... O ..... O..
38. Vorgesetzte kontrollieren Untergebene zu sehr..... O ..... O..
39. Abwechslung und Veraenderungen sind nicht besonders wichtig ..... O ..... O..
40. Der Arbeitsplatz wirkt geschmackvoll und modern..... O ..... O..
41. Alle geben sich grosse Muehe bei dem, was sie tun..... O ..... O..
42. Man spricht offen darueber, wie man sich fuehlt ..... O ..... O..
43. Vorgesetzte kritisieren aus belanglosen Gruenden ..... O ..... O..
44. Vorgesetzte ermutigen Untergebene, auftauchende Problem selbst in die Hand zu nehmen ..... O ..... O..
45. Viel zu erledigen ist fuer alle wichtig ..... O ..... O..
46. Es besteht kein Zeitdruck ..... O ..... O..
47. Aufgaben werden den Arbeitnehmern im Detail erklart ..... O ..... O..
48. Regeln und Vorschriften werden durchgesetzt..... O ..... O..
49. Unveraenderte Arbeitsmethoden werden schon seit langem benutzt ..... O ..... O..
50. Ein paar Verschoenerungen am Arbeitsplatz wuerden nicht schaden..... O ..... O..
51. Selten werden Aufgaben freiwillig uebernommen..... O ..... O..
52. Arbeitnehmer verbringen ihre Mittagspause oft zusammen ..... O ..... O..
53. Arbeitnehmer scheuen sich nicht, nach einer Gehaltserhoehung zu fragen ..... O ..... O..

54. Im allgemeinen versuchen Arbeitnehmer nicht individuell und "anders" zu sein ..... O ..... O..
55. Dem Motto "Erst die Arbeit, dann das Vergnuegen" wird Nachdruck verliehen..... O ..... O..
56. Es ist sehr schwer, den Arbeitsanfall zu bewaeltigen..... O ..... O..
57. Arbeitnehmer wissen oft nicht genau, was von ihnen erwartet wird..... O ..... O..
58. Vorgesetzte ueberpruefen Arbeitnehmer staendig und ueberwachen sie genau ..... O ..... O..
59. Neue Methoden werden selten ausprobiert ..... O ..... O..
60. Die Farben und Dekorationen machen den Arbeitsplatz nett und freundlich ..... O ..... O..
61. Dies ist ein lebhafter Arbeitsplatz ..... O ..... O..
62. Arbeitnehmer, die sich von anderen sehr unterscheiden,  
kommen nicht gut zurecht..... O ..... O..
63. Vorgesetzte erwarten viel zuviel von Untergebenen..... O ..... O..
64. Arbeitnehmer werden zur Fortbildung ermutigt, auch wenn diese nicht direkt  
berufsbezogen ist ..... O ..... O..
65. Arbeitnehmer arbeiten sehr viel ..... O ..... O..
66. Man kann sich Zeit lassen und wird dennoch mit seiner Arbeit fertig..... O ..... O..
67. Aussertarifliche Zusatzleistungen werden den Beschaeftigten detailliert erklart ..... O ..... O..
68. Vorgesetzte ueben selten Druck auf Untergebene aus..... O ..... O..
69. Man hat das Gefuehl, es bleibt alles beim Alten ..... O ..... O..
70. Manchmal weht einer rauher Wind ..... O ..... O..
71. Es ist schwer, Beschaeftigte zu zusaetzlichen Arbeiten zu bewegen ..... O ..... O..
72. Beschaeftigte sprechen oft miteinander ueber ihre persoenlichen Probleme ..... O ..... O..
73. Arbeitnehmer sprechen mit ihren Vorgesetzten ueber persoenliche Probleme..... O ..... O..
74. Arbeitnehmer sind im allgemeinen faehig, ziemlich gut ohne ihre Vorgesetzten  
auszukommen..... O ..... O..
75. Die Beschaeftigten scheinen recht unfahig zu sein..... O ..... O..
76. Es sind immer Termine einzuhalten ..... O ..... O..
77. Regeln und Vorschriften aendern sich staendig..... O ..... O..

	RICHTIG	FALSCH
79. Es herrscht eine frische und aufgeschlossene Atmosphaere an diesem Arbeitsplatz.....	O	O..
80. Das Mobiliar ist normalerweise ansprechend plaziert .....	O	O..
81. Die Arbeit ist normalerweise sehr interessant .....	O	O..
82. Oft erzeugen Beschaeftigte Aerger dadurch, dass sie hinter dem Ruecken anderer ueber diese reden.....	O	O..
83. Vorgesetzte setzen sich wirklich fuer ihre Leute ein.....	O	O..
84. Vorgesetzte setzen sich regelmaessig mit ihren Untergebenen zusammen um zukuenftige Arbeitsziele zu besprechen .....	O	O..
85. Arbeitnehmer neigen dazu, zu spaet zur Arbeit zu kommen .....	O	O..
86. Beschaeftigte muessen oft Ueberstunden leisten, um ihr Pensum zu erfuellen.....	O	O..
87. Vorgesetzte halten ihre Untergebenen an, nett und ordentlich zu sein .....	O	O..
88. Wenn ein Untergebener zu spaet kommt, kann er das durch Laengerbleiben ausgleichen .....	O	O..
89. Alles scheint sich immer zu aendern.....	O	O..
90. Die Raeume sind gut belueftet.....	O	O..
91. Vorgesetzte teilen Untergebenen Eigenverantwortung zu .....	O	O..
92. Oft scheinen Versorgungsgueter/Arbeitsmaterialien zu fehlen .....	O	O..
93. Vorgesetzte teilen Wissen mit .....	O	O..
94. Meine Abteilung hat die Geraete, die sie braucht um die Arbeit zu bewaeltigen.....	O	O..
95. Hier scheint es oft eine Krise nach der anderen zu geben .....	O	O..
96. Oeffentliche Anerkennung motiviert mich zu besserer Arbeitsleistung.....	O	O..
97. Meine Abteilung weiss nicht, wo es lang geht.....	O	O..
98. Fortlaufende Qualitaetsverbesserung gibt es in meiner Abteilung nicht.....	O	O..
99. Informationen werden regelmaessig mitgeteilt .....	O	O..
100. Es herrscht eine gute Verstaendigung zwischen Vorgesetzten und Untergebenen.....	O	O..
101. Die Beschaeftigten werden fuer ihre Beitraege anerkannt.....	O	O..

- |   | RICHTIG | FALSCH |
|---|---------|--------|
| 102. Die Beschaeftigten bekommen sowohl Verantwortungsbereiche als auch Durchsetzungsmoeglichkeiten ..... | O ..... | O ..   |
| 103. Man fuerchtet nicht, Fehler zu zugeben .....   | O ..... | O ..   |
| 104. Man kuemmert sich mehr um sich selbst als um andere .....  | O ..... | O ..   |
| 105. Hier dreht sich alles um den Patienten .....   | O ..... | O ..   |
| 106. Beschaeftigte streben nach staendigen Verbesserungen .....   | O ..... | O ..   |

**VIELEN DANK FUER DAS AUSFUELLEN DIESES FRAGEBOGENS. ENTFERNEN SIE BITTE DIE LETZTE SEITE (DIE SEITE MIT IHREM NAMEN), FALTEN SIE DEN FRAGEBOGEN, HEFTEN SIE IHN ZUSAMMEN UND SCHICKEN SIE IHN ZURUECK AN MAJ FOLEY, ADMINISTRATIVE RESIDENT, LPMC HQ.**

## DEMOGRAPHISCHE ANGABEN

Was ist Ihr Geschlecht?

Maennlich ☐

Weiblich ☐

Wie ist Ihr Bildungsstand?

☐ Volksschule

☐ Abitur

☐ Mittlere Reife

☐ Universitaetsstudium

Was ist Ihre Job Series? \_\_\_\_\_

Unter welcher Oberabteilung arbeiten Sie?

Deputy Commander for Administration ☐

Deputy Commander Clinical Service ☐

Deputy Commander for Nursing ☐

Andere \_\_\_\_\_

Wie alt sind Sie? \_\_\_\_\_

Was ist Ihre gegenwaertige Bezahlungseinstufung?

<input type="radio"/>	<input type="radio"/>	1	<input type="radio"/>
WO	<input type="radio"/>	2	<input type="radio"/>
E	<input type="radio"/>	4	<input type="radio"/>
GS	<input type="radio"/>	5	<input type="radio"/>
LN	<input type="radio"/>	6	<input type="radio"/>
		7	<input type="radio"/>
		8	<input type="radio"/>
		9	<input type="radio"/>
		10	<input type="radio"/>
		11	<input type="radio"/>
		12	<input type="radio"/>

Zu welcher Abteilung gehoeren Sie?

☐ Nursing

☐ Nutrition Care

☐ Headquarters

☐ Medicine

☐ Primary Care

☐ Education

☐ Surgical

☐ PO&T

☐ Pediatrics

☐ Laboratory

☐ PAD

☐ Other \_\_\_\_\_

☐ Logistics

☐ IMO

☐ Pharmacy

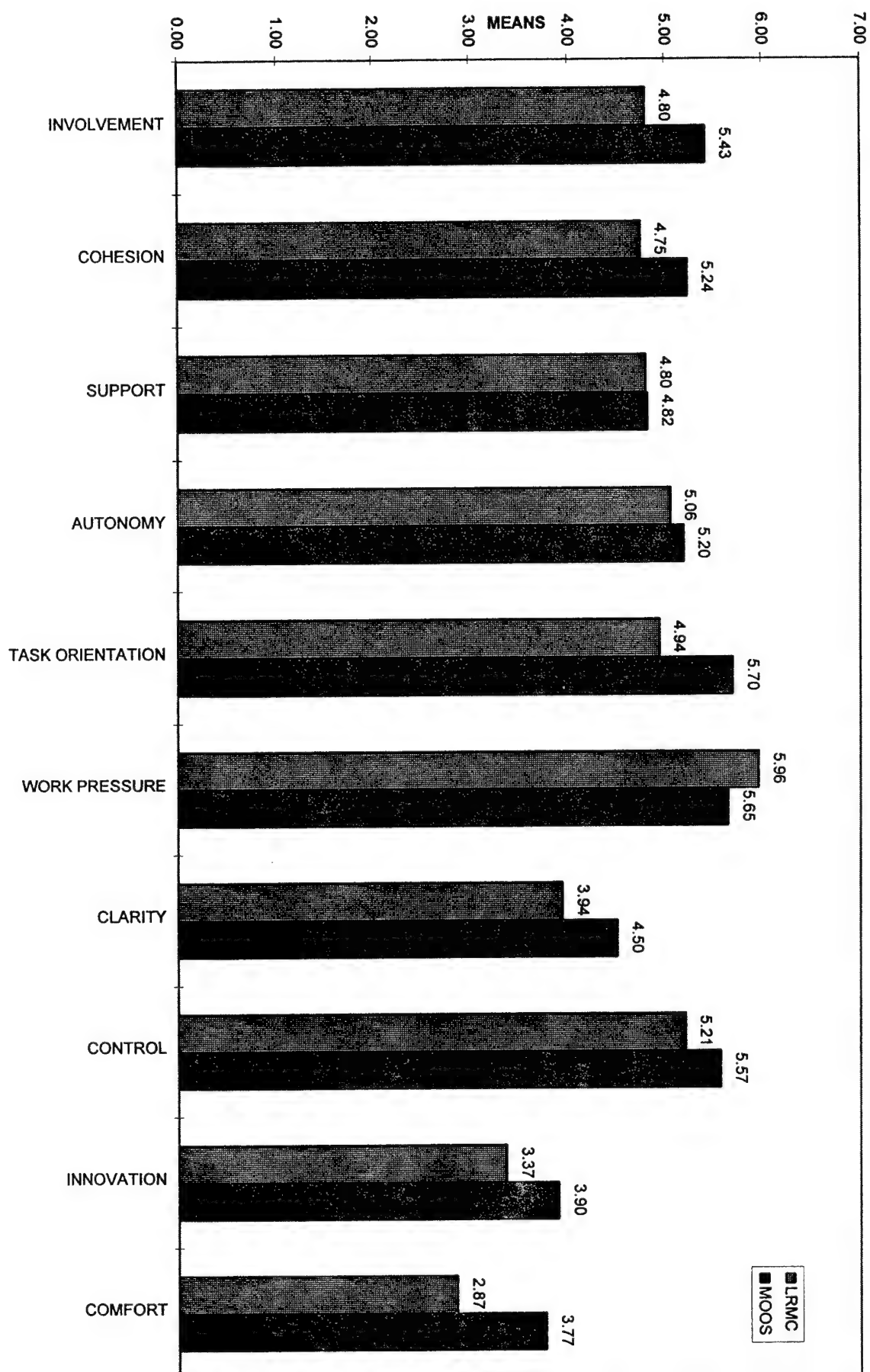
☐ Personnel



## **Appendix B**

### **Graphical Presentation of Means**

## LRMC MEANS IN COMPARISON WITH MOOS



## Appendix C

### Analysis of Variance on the Content Areas for Age

#### ONE-WAY ANOVA: INVOLVEMENT

GROUP	MEAN	N
<39	4.287	94
>=39	6.196	51
WITHIN GROUPS TOTAL	4.958	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	120.467	1	120.467	19.909	.0000*
Within Groups	865.283	143	6.050		
TOTAL	985.75	144			

\*Statistically Significant

#### ONE-WAY ANOVA: COWORKER

GROUP	MEAN	N
<39	4.553	94
>=39	5.803	51
WITHIN GROUPS TOTAL	4.993	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	51.719	1	51.719	8.373	.0044*
Within Groups	883.273	143	6.176		
TOTAL	34.992	144			

\*Statistically Significant

ONE-WAY ANOVA: SUPERVISOR SUPPORT

GROUP	MEAN	N
<39	4.478	94
>=39	5.764	51
WITHIN GROUPS TOTAL	4.931	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	54.676	1	54.676	9.504	.0025*
Within Groups	822.633	143	5.752		
TOTAL	877.309	144			

\*Statistically Significant

ONE-WAY ANOVA: AUTONOMY

GROUP	MEAN	N
<39	4.797	94
>=39	5.745	51
WITHIN GROUPS TOTAL	5.131	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	29.664	1	29.664	6.578	.0114*
Within Groups	644.845	143	4.5094		
TOTAL	674.509	144			

\*Statistically Significant

(Table Continues)

ONE-WAY ANOVA: **TASK ORIENTATION**

GROUP	MEAN	N
<39	4.521	94
>=39	5.980	51
WITHIN GROUPS TOTAL	5.034	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	70.389	1	70.389	10.888	.0112*
Within Groups	924.437	143	6.464		
TOTAL	994.826	144			

\*Statistically Significant

ONE-WAY ANOVA: **WORK PRESSURE**

GROUP	MEAN	N
<39	5.691	94
>=39	6.274	51
WITHIN GROUPS TOTAL	5.896	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	11.238	1	11.238	1.805	.1812
Within Groups	890.210	143	6.225		
TOTAL	901.448	144			

(Table Continues)

ONE-WAY ANOVA: CLARITY

GROUP	MEAN	N
<39	3.489	94
>=39	5.098	51
WITHIN GROUPS TOTAL		4.055

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	85.559	1	85.559	13.966	.0003*
Within Groups	875.999	143	6.125		
TOTAL	901.448	144			

\*Statistically Significant

ONE-WAY ANOVA: MANAGERIAL CONTROL

GROUP	MEAN	N
<39	5.212	94
>=39	5.156	51
WITHIN GROUPS TOTAL		5.193

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.1033	1	.1033	.0277	.8679
Within Groups	532.489	143	3.723		
TOTAL	532.592	144			

(Table Continues)

ONE-WAY ANOVA: INNOVATION

GROUP	MEAN	N
<39	3.085	94
>=39	4.294	51
WITHIN GROUPS TOTAL	3.510	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	48.327	1	48.327	8.036	.0052*
Within Groups	859.907	143	6.013		
TOTAL	908.234	144			

\*Statistically Significant

ONE-WAY ANOVA: PHYSICAL COMFORT

GROUP	MEAN	N
<39	2.861	94
>=39	3.137	51
WITHIN GROUPS TOTAL	2.958	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	2.510	1	2.510	.6967	.4053
Within Groups	515.241	143	3.603		
TOTAL	517.751	144			

(Table Continues)

ONE-WAY ANOVA: **PROVISION FOR PROCESS IMPROVEMENT**

GROUP	MEAN	N
<39	2.808	94
>=39	3.451	51
WITHIN GROUPS TOTAL	3.034	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	13.646	1	13.646	11.535	.0009*
Within Groups	169.180	143	1.183		
TOTAL	182.826	144			

\*Statistically Significant

ONE-WAY ANOVA: **COMMUNICATION**

GROUP	MEAN	N
<39	1.446	94
>=39	2.137	51
WITHIN GROUPS TOTAL	1.689	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	15.761	1	15.761	11.087	.0011*
Within Groups	203.273	143	1.421		
TOTAL	219.034	144			

\*Statistically Significant



ONE-WAY ANOVA: **RELATIONSHIP MOTIVATED LEADERSHIP**

GROUP	MEAN	N
<39	1.829	94
>=39	2.490	51

WITHIN GROUPS TOTAL 2.062

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	14.419	1	14.419	13.930	.0003*
Within Groups	148.021	143	1.035		
TOTAL	162.440	144			

\*Statistically Significant

ONE-WAY ANOVA: **SITUATIONAL IMPORTANCE**

GROUP	MEAN	N
<39	1.297	94
>=39	1.1961	51

WITHIN GROUPS TOTAL 1.262

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.342	1	.342	.794	.3744
Within Groups	61.698	143	.431		
TOTAL	62.04	144			

(Table Continues)

ONE-WAY ANOVA: SELF RELIANCE

GROUP	MEAN	N
<39	1.436	94
>=39	1.549	51
WITHIN GROUPS TOTAL	1.475	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.420	1	.421	.670	.4141
Within Groups	89.744	143	.627		
TOTAL	90.164	144			

---

## Appendix D

### Analysis of Variance on the Content Areas for Gender

#### ONE-WAY ANOVA: INVOLVEMENT

GROUP	MEAN	N
Female	5.111	72
Male	4.602	88
WITHIN GROUPS TOTAL	4.831	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	10.253	1	10.253	1.505	.2217
Within Groups	1076.190	158	6.811		
TOTAL	1086.443	159			

#### ONE-WAY ANOVA: COWORKER COHESION

GROUP	MEAN	N
Female	5.166	72
Male	4.647	88
WITHIN GROUPS TOTAL	4.881	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	10.664	1	10.664	1.664	.1988
Within Groups	1012.079	158	6.405		
TOTAL	1022.743	159			

**ONE-WAY ANOVA: SUPERVISOR SUPPORT**

GROUP	MEAN	N
Female	4.527	72
Male	5.090	88
WITHIN GROUPS TOTAL	4.837	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	12.557	1	12.557	2.034	.1557
Within Groups	975.217	158	6.172		
TOTAL	987.774	159			

**ONE-WAY ANOVA: AUTONOMY**

GROUP	MEAN	N
Female	5.027	72
Male	5.102	88
WITHIN GROUPS TOTAL	5.068	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.219	1	.2198	.0440	.8342
Within Groups	790.024	158	5.0002		
TOTAL	790.243	159			

**ONE-WAY ANOVA: TASK ORIENTATION**

GROUP	MEAN	N
Female	5.444	72
Male	4.625	88
WITHIN GROUPS TOTAL	4.993	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	26.591	1	26.591	4.125	.0439*
Within Groups	1018.402	158	6.445		
TOTAL	1044.993	159			

\*Statistically Significant

**ONE-WAY ANOVA: WORK PRESSURE**

GROUP	MEAN	N
Female	6.291	72
Male	5.659	88
WITHIN GROUPS TOTAL	5.943	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	15.846	1	15.846	2.563	.1114
Within Groups	976.647	158	6.181		
TOTAL	992.493	159			

(Table Continues)

ONE-WAY ANOVA: **CLARITY**

GROUP	MEAN	N
Female	4.041	72
Male	3.954	88
WITHIN GROUPS TOTAL	3.993	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.300	1	.3006	.0436	.8348
Within Groups	1088.693	158	6.890		
TOTAL	1088.993	159			

ONE-WAY ANOVA: **MANAGERIAL CONTROL**

GROUP	MEAN	N
Female	5.097	72
Male	5.306	88
WITHIN GROUPS TOTAL	5.212	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	1.739	1	1.739	.4651	.4963
Within Groups	591.035	158	3.740		
TOTAL	592.774	159			

(Table Continues)

ONE-WAY ANOVA: INNOVATION

GROUP	MEAN	N
Female	3.597	72
Male	3.227	88
WITHIN GROUPS TOTAL	3.393	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	5.419	1	5.419	.8785	.3500
Within Groups	974.774	158	6.169		
TOTAL	980.193	159			

ONE-WAY ANOVA: PHYSICAL COMFORT

GROUP	MEAN	N
Female	2.638	72
Male	3.022	88
WITHIN GROUPS TOTAL	2.850	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	5.834	1	5.834	1.6866	.1959
Within Groups	546.565	158	3.459		
TOTAL	552.399	159			

(Table Continues)

**ONE-WAY ANOVA: PROVISIONS FOR PROCESS IMPROVEMENT**

GROUP	MEAN	N
Female	3.111	72
Male	2.954	88
WITHIN GROUPS TOTAL	3.025	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.970	1	.9707	.7558	.3860
Within Groups	202.929	158	1.2844		
TOTAL	203.899	159			

**ONE-WAY ANOVA: COMMUNICATION**

GROUP	MEAN	N
Female	1.625	72
Male	1.704	88
WITHIN GROUPS TOTAL	1.668	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.250	1	.2506	.1641	.6859
Within Groups	241.193	158	1.5265		
TOTAL	241.443	159			

(Table Continues)



ONE-WAY ANOVA: **RELATIONSHIP MOTIVATED LEADERSHIP**

GROUP	MEAN	N
Female	1.902	72
Male	2.147	88
WITHIN GROUPS TOTAL	2.037	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	2.376	1	2.376	2.047	.1545
Within Groups	183.399	158	1.160		
TOTAL	241.443	159			

ONE-WAY ANOVA: **SITUATIONAL IMPORTANCE**

GROUP	MEAN	N
Female	1.236	72
Male	1.318	88
WITHIN GROUPS TOTAL	1.281	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.266	1	.2667	.6014	.4392
Within Groups	70.077	158	.4435		
TOTAL	70.343	159			

(Table Continues)

ONE-WAY ANOVA: **SELF RELIANCE**

GROUP	MEAN	N
Female	1.402	72
Male	1.488	88
WITHIN GROUPS TOTAL	1.450	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig
Between Groups	.291	1	.2919	.4740	.4922
Within Groups	97.308	158	.6159		
TOTAL	97.599	159			

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## Appendix E

### Analysis of Variance on the Content Areas of Deputy Commander

#### ONE - WAY ANOVA : INVOLVEMENT

GROUP	MEAN	N
DCA	5.000	39
DCCS	5.186	65
DCN	4.222	45
WITHIN GROUPS TOTAL	4.845	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	25.887	2	12.944	1.969	.1430
Within Groups	959.562	146	6.572		
TOTAL	985.449	148			

#### ONE - WAY ANOVA: COWORKER COHESION

GROUP	MEAN	N
DCA	4.256	39
DCCS	5.030	65
DCN	5.3556	45
WITHIN GROUPS TOTAL	4.926	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	26.502	2	13.251	2.175	.1173
Within Groups	889.685	146	6.093		
TOTAL	916.187	148			

ONE - WAY ANOVA: SUPERVISOR SUPPORT

GROUP	MEAN	N
DCA	4.821	39
DCCS	5.046	65
DCN	4.644	45
WITHIN GROUPS TOTAL	4.865	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	4.399	2	2.199	.3722	.6899
Within Groups	862.916	146	5.910		
TOTAL	867.315	148			

ONE - WAY ANOVA: AUTONOMY

GROUP	MEAN	N
DCA	5.128	39
DCCS	5.138	65
DCN	5.111	45
WITHIN GROUPS TOTAL	5.127	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	.019	2	.010	.002	.998
Within Groups	646.557	146	4.428		
TOTAL	646.577	148			

(Table Continues)

ONE - WAY ANOVA: **TASK ORIENTATION**

GROUP	MEAN	N
DCA	5.128	39
DCCS	5.231	65
DCN	4.467	45
WITHIN GROUPS TOTAL	4.973	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	16.795	2	8.397	1.358	.2610
Within Groups	903.097	146	6.186		
TOTAL	919.892	148			

ONE - WAY ANOVA: **WORK PRESSURE**

GROUP	MEAN	N
DCA	6.333	39
DCCS	5.600	65
DCN	6.022	45
WITHIN GROUPS TOTAL	5.919	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	13.789	2	6.895	1.088	.3394
Within Groups	925.244	146	6.337		
TOTAL	939.033	148			

(Table Continues)

ONE - WAY ANOVA: **CLARITY**

GROUP	MEAN	N
DCA	3.974	39
DCCS	4.046	65
DCN	3.911	45
WITHIN GROUPS TOTAL	3.986	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	.492	2	.246	.036	.9840
Within Groups	975.480	146	6.681		
TOTAL	975.973	148			

ONE - WAY ANOVA: **MANAGERIAL CONTROL**

GROUP	MEAN	N
DCA	4.949	39
DCCS	5.292	65
DCN	5.222	45
WITHIN GROUPS TOTAL	5.181	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	2.986	2	1.493	.036	.9840
Within Groups	563.121	146	3.857		
TOTAL	566.107	148			

(Table Continues)

ONE - WAY ANOVA: **INNOVATION**

GROUP	MEAN	N
DCA	3.538	39
DCCS	3.323	65
DCN	3.266	45
WITHIN GROUPS TOTAL	3.362	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	1.721	2	.861	.144	.8650
Within Groups	870.707	146	5.964		
TOTAL	872.429	148			

ONE - WAY ANOVA: **PHYSICAL COMFORT**

GROUP	MEAN	N
DCA	3.179	39
DCCS	2.892	65
DCN	2.667	45
WITHIN GROUPS TOTAL	2.899	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	5.500	2	2.750	.781	.459
Within Groups	513.989	146	3.521		
TOTAL	519.489	148			

(Table Continues)

ONE - WAY ANOVA: **PROVISIONS FOR PROCESS IMPROVEMENT**

GROUP	MEAN	N
DCA	2.871	39
DCCS	3.246	65
DCN	2.888	45
WITHIN GROUPS TOTAL	3.040	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	4.893	2	2.446	1.9751	.1424
Within Groups	180.865	146	1.238		
TOTAL	185.758	148			

ONE - WAY ANOVA: **COMMUNICATION**

GROUP	MEAN	N
DCA	1.487	39
DCCS	1.738	65
DCN	1.666	45
WITHIN GROUPS TOTAL	1.651	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	1.554	2	.777	..5200	.5956
Within Groups	218.297	146	1.495		
TOTAL	219.851	148			

(Table Continues)



ONE - WAY ANOVA: **RELATIONSHIP MOTIVATED LEADERSHIP**

	GROUP	MEAN	N
	DCA	1.948	39
	DCCS	2.215	65
	DCN	1.933	45
	WITHIN GROUPS TOTAL	2.060	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	2.774	2	1.387	1.2844	.2799
Within Groups	157.682	146	1.080		
TOTAL	160.456	148			

ONE - WAY ANOVA: **SITUATIONAL IMPORTANCE**

	GROUP	MEAN	N
	DCA	1.359	39
	DCCS	1.246	65
	DCN	1.200	45
	WITHIN GROUPS TOTAL	1.261	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	.556	2	.278	.6128	.5432
Within Groups	66.235	146	.453		
TOTAL	66.791	148			

(Table Continues)

ONE - WAY ANOVA: SELF RELIANCE

GROUP	MEAN	N
DCA	1.769	39
DCCS	1.353	65
DCN	1.377	45
WITHIN GROUPS TOTAL	1.469	

SOURCE	SUM OF SQUARES	d.f.	MEAN SQUARE	F Ratio	Sig.
Between Groups	4.751	2	2.375	3.9256	.0218
Within Groups	88.362	146	.605		
TOTAL	93.113	148			

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